EEE EMBEDDED MINI PROJECT

S.No.	NAME OF THE LIST
1.	Automatic Irrigation water supply monitoring and control system (soil & water level).
2.	Power Monitoring System (Voltage, Current, Pf, Active & Reactive power)
3.	Chopper based DC motor speed control.
4.	Wireless Energy Meter Using RF Communication.
5.	Circuit Breaker (Single Phase).
6.	Transformer over Load Alert (Through Voice Announcement).
7.	Bi-directional DC Motor Speed Control System.
8.	Energy Management with RF Communication.
9.	Speed control of exhaust fan using IR remote / RF.
10.	Power grid control through PC.
11.	Three phase load safety implementation with phase fault detector.
12.	PC Based Transformer Monitoring & Protection.
13.	Design of Digital Frequency Meter.
14.	Speed control of Universal motor by Phase angle control method using TRIAC.
15.	Automatic load sharing of transformers.
16.	Temperature Dependent Dc Motor Speed Control using Thermistor.
17.	Stepper Motor Speed Control Using IR / RF.
18.	Protection of appliances from Over voltage and under voltage.
19.	Automatic Changeover switch for Uninterrupted Power Supply.
20.	Feeder Protection from Over Load.
21.	Closed loop Speed Measurement of Dc Motor.
22.	Design of digital energy meter.
23.	Temperature adjustable heating system using power electronic devices.
24.	Four-channel fault annunciation for industries (Temp, Ldr, Voltage, Current).
25.	Wireless Based Electrical Device Control (IR).

26.	Electrical Apparatus Control System in a Plant Using RF Wireless Communication.
27.	Single Phase half wave controlled rectifier using SCR.
28.	Single Phase full wave controlled rectifier using SCR.
29.	PC Based Dc Motor Speed Control Using PWM.
30.	Thermal Plant Boiler Temperature and Water Level Monitoring.
31.	Digital Speedometer.
32.	Controlling of Incandescent bulbs Intensity by using microcontroller.
33.	Speed control of Universal motor by using SCR.
34.	Light dimmer circuit using LDR for power saving in industries
35.	Microcontroller based advanced automatic city street light control system (LDR Sensor).
36.	Closed loop speed Measure of DC motor using SCR converter.
37.	Lead acid battery charger with over voltage protection.
38.	Variable Frequency Cyclo Converter.
39.	Temperature based speed control of exhaust fan using TRIAC.
40.	Micro Controller Based Home Security System (Password).
41.	Wireless Data Acquisition System.
42.	Voltage level based appliances switching.
43.	Back to back SCR's to control speed of universal motor by firing angle control.
44.	Wireless speed control of dc motor with IR / RF communication.
45.	Booster converter.
46.	PC based substation monitoring (Voltage, Current, Temp).
47.	Speed control of universal motor using IGBT.
48.	Auto mains frequency monitor and equipment controlling system.
49.	Programmable digital delay lines for electricity board
50.	Smart card based Electrical Equipments access control system.
51.	Invisible Broken Wire Detector.
52.	Multi-Zone Temperature Monitoring with Voice Announcement System.
53.	Fire Monitor System using Microcontroller.
54.	Programmable static relay using TRIAC.
55.	Automatic Room light Controller with Visitor Counter.
56.	Monitoring & Automation of agricultural field environment (Temp, Soil, Ldr).
57.	Multi Channel Voltage Scanner.
58.	PC Based Different Industrial Parameter Measurement (Current, Voltage, and Temp).
59.	GSM Based DC Motor Speed Control.
60.	Servo Motor Control using IR / RF

MINI Projects for EEE (Matlab / Simulation) 2011

COURSE OF INSTRUCTION

1. **Basics of MATLAB programming/Simulink.**
2. **Designing of Simple circuits in Simulink**
3. **Steady State Space Analysis of RLC Circuits**
4. **Electrical Drives/Machines**
   a. Basic Concepts of Motor
   b. AC/DC motors
   c. Modeling of Induction Motors
   d. Electrical Drives
   e. Various speed controlling techniques of AC/DC motors
   f. Fuzzy/Neural Networks
5. **Power Electronics:**
   a. Uncontrollable/controllable Converters
   b. Various PWM Techniques(PWM/SPWM/SVPWM/DPWM/GDPWM)
   c. Multilevel Inverters
   d. Harmonics, Active/Passive Filters
   e. DC to DC converters(Buck/Buck Boost/Cuk/Sepic)
   f. Fuzzy/Neural Networks
6. **Power Systems:**
   a. Transmission/Distribution/Protection
   b. HVAC/HVDC
   c. Concepts of Facts(UPFC/SSSC/Statcom/UPQC/TCSC)
   d. Modeling of Facts Devices in Simulink/Matlab
   e. Distributed Generation
   f. Non Conventional Energy Sources
   g. Fuzzy/Neural Networks

IEEE 2010 - 2000

S.No.	NAME OF THE LIST	Year
1.	A Novel Three-Phase to Five-Phase Transformation Using a Special Transformer Connection	2010
2.	Super capacitors and Battery power management for Hybrid Vehicle Applications Using multi boost and full bridge Converters	2010
3.	Reduced rating VSC with a Zig-Zig transformer for current compensation in three phase four wire distribution system (IEEE)	2009
4.	A Single-Phase Voltage-Controlled Grid-Connected Photovoltaic System With Power Quality Conditioner Functionality (IEEE)	2009
5.	Power quality improvement in conventional electronic load controller for isolated Power Generation (IEEE)	2009
6.	A fast-acting dc-link voltage controller for 3 phase D-Statcom to compensate ac and dc loads (IEEE)	2009
7.	Operation and control of single phase micro-sources in a utility connected grid (IEEE)	2009
8.	MultiConverter Unified Power-Quality Conditioning System: MC-UPQC (IEEE)	2009
9.	The use of facts devices in distributed power systems-modeling ,interface case study(IJCE)	2009
10.	Dynamic Modeling and Simulation of Hybrid Power Systems Based on Renewable Energy (IEEE)	2009
11.	Double Frequency Buck converter (IEEE)	2009
12.	Optimal placement of shunt connected facts devices in a series compensated long transmission line (WCE)	2009
13.	Voltage flicker compensation using STATCOM (IEEE)	2009
14.	A variable speed, sensor less, induction motor using dc link measurement (IEEE)	2009
15..	Soft computing techniques for the control of an active power filter (IEEE)	2009
16.	Design and analysis of dynamic voltage restorer for deep voltage sag and harmonic compensation (IEEE)	2009
17.	Modeling of FACTS Devices Based on SPWM VSCs (IEEE)	2009
18.	Harmonic Analysis and Improvement of a New Solid-State Fault Current Limiter (IEEE)	2009
19.	A Versatile Control Scheme for a Dynamic Voltage Restorer for Power-Quality Improvement (IEEE)	2009

20.	Seven-Level Shunt Active Power Filter for High-Power Drive Systems (IEEE)	2009
21.	A 24-pulse AC-DC converter employing a pulse doubling technique for a vector-controlled induction motor drives(IETE)	2008
22.	Switching losses and harmonic investigations in multilevel inverters (IETE)	2008
23.	Control of grid-interfacing inverters with integrated voltage unbalance correction (IEEE)	2008
24.	Control strategies for distribution static compensator for power quality improvement(IETE)	2008
25.	An Integrated Hybrid Power Supply for Distributed Generation Applications Fed by Nonconventional Energy Sources (IEEE)	2008
26.	Fuzzy logic based control of variable speed induction machine wind generation system (IEEE)	2008
27.	Study of HVDC for its enhancement on AC/DC interconnected transmission systems (IEEE)	2008
28.	Development of grid connected Wind/PV/BESS hybrid distribution generation system(CIRED)	2008
29.	Enhancement of voltage quality in isolated power systems (IEEE)	2007
30.	Interline unified power quality conditioner (IEEE)	2007
31.	Harmonics modeling and harmonics activity analysis of equipment with switch mode power supply using matlab and Simulink (IEEE)	2007
32..	Fuzzy control of fuel cell distributed generation system(IJEE)	2007
33.	Application of voltage and current controlled voltage source inverters for distributed generation systems (IEEE)	2006
34.	Dynamic modeling and simulation of wind fuel cell ultra capacitor hybrid power generation system (Science Direct)	2006
35	Modeling and simulation for voltage sags/swell mitigation using dynamic voltage restorer (JATIT)	2006
36.	Modeling and control of fuel cell based distributed generation system(JIAEE)	2005
37.	PSCAD/EMTDC Simulation of Unified Series-Shunt Compensator for Power Quality Improvement (IEEE)	2005
38.	Eighteen-pulse ac-dc converter for harmonic mitigation in VCIMD (IEEE)	2009

39.	Simulink Model for Economic Analysis and Environmental Impacts of a PV With Diesel-Battery System for Remote Villages (IEEE)	2005
40.	Static VAR compensator based voltage control implementation of single phase self excited induction generator (IEEE)	2005
41.	Real & reactive power co-ordination of UPFC (IEEE)	2004
42	Matlab/simulink implementation for reducing the motor derating and torque pulsation of induction motor using matrix converter (IEEE)	2004
43.	Fuzzy logic speed control of a dc motor (IEEE)	2004
44.	Damping power system oscillations using a genetic algorithm based unified power flow controller (IEEE)	2004
45.	A New topology for Unipolar Brushless DC motor drive with high power factor (IEEE)	2003
46.	Operating stationary fuel cells on power system and micro grids (IEEE)	2003
47.	Low cost inverter for domestic fuel cell applications (IEEE)	2002
48.	The use of matrix converter in direct torque control of induction machines (IEEE)	2001
49.	Automatic Voltage Regulator Using an AC Voltage–Voltage Converter (IEEE)	2001
50.	Power system stability improvement using energy storage with fuzzy logic controller (IEEE)	2000
51.	Control of parallel connected inverters in standalone ac supply systems (IEEE)	2000